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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,355

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Tatsuki Nogiwa

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EXAMINER

GRAYBILL, DAVID E

ART UNIT

PAPER NUMBER

2822

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/772,355

**Applicant(s)**

NOGIWA ET AL.

**Examiner**

David E. Graybill

**Art Unit**

2822

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-24, 27-30, 32 and 38-44 is/are pending in the application.
- 4a) Of the above claim(s) 18-24 and 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-30, 32, 38-40 and 42-44 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2-29-8 has been entered.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claims 27 and 44 feature, "wherein both a tackiness between the first adhesive holding region and the main body and a tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Abstract: 1;

Throughout the specification: 708;

Paragraph 15, FIG. 3: 12 .

The following is a quotation of 37 CFR 1.84, "Standards for drawings":

(p) Numbers, letters, and reference characters.

(1) Reference characters (numerals are preferred), sheet numbers, and view numbers must be plain and legible, and must not be used in association with brackets or inverted commas, or enclosed within outlines, e.g., encircled. They must be oriented in the same direction as the view so as to avoid having to rotate the sheet. Reference characters should be arranged to follow the profile of the object depicted.

Art Unit: 2822

(2) The English alphabet must be used for letters, except where another alphabet is customarily used, such as the Greek alphabet to indicate angles, wavelengths, and mathematical formulas.

(3) Numbers, letters, and reference characters must measure at least .32 cm. (1/8 inch) in height. They should not be placed in the drawing so as to interfere with its comprehension. Therefore, they should not cross or mingle with the lines. They should not be placed upon hatched or shaded surfaces. When necessary, such as indicating a surface or cross section, a reference character may be underlined and a blank space may be left in the hatching or shading where the character occurs so that it appears distinct.

(4) The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts.

(5) Reference characters not mentioned in the description shall not appear in the drawings. Reference characters mentioned in the description must appear in the drawings.

(q) Lead lines . Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated. Lead lines must not cross each other. Lead lines are required for each reference character except for those which indicate the surface or cross section on which they are placed. Such a reference character must be underlined to make it clear that a lead line has not been left out by mistake. Lead lines must be executed in the same way as lines in the drawing. See paragraph (l) of this section.

(r) Arrows . Arrows may be used at the ends of lines, provided that their meaning is clear, as follows:

(1) On a lead line, a freestanding arrow to indicate the entire section towards which it points;

(2) On a lead line, an arrow touching a line to indicate the surface shown by the line looking along the direction of the arrow; or

(3) To show the direction of movement.

The drawings are objected to as failing to comply with 37 CFR 1.84(q) because the following reference characters do not have required lead lines:

FIGS. 1-3: 1a;

FIGS. 4 and 5: 5;

FIGS. 14 and 16: 1b;

FIG. 15: 91;

FIG. 18: 1d.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters have been used to designate the same part. Specifically:

FIGS. 1: 1a and 121;

FIG. 2: 12 and 121;

FIGS. 6 and 7: 551 and 552;

FIG. 10: 12 and 71;

FIG. 17: 121 and 1c;

FIG. 18: 121 and 1d;

FIG. 19: 121 and 1e;

FIG. 19: 121 and 1f.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because the same reference character is used to designate different parts. Specifically:

FIG. 16: 91 (The lead line with the freestanding arrow indicates the entire section towards which it points).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities:

Paragraph 6 confusingly discloses, "a region of the base plate in which the adhesive holding layer is provided for adhering an FPC thereto is referred to as an 'adhesive holding region', as opposed to the adhesive holding layer itself which is provided in the adhesive holding region. When electronic components must be mounted on an FPC which is adhered to a base plate, it is imperative that the shape of the adhesive holding layer (adhesive holding region)."

At paragraph 13, Table 1, the meaning of the language "mirror face" is unclear. Also, the meaning of the values "1 S" and "1.6 S" is unclear.

At paragraph 67, the statement, "In this case, there will be no adhesive holding layer" appears to be incorrect because the single adhesive member would inherently have "an adhesive holding layer 12 formed of an adhesive material" (paragraph 9) and without an adhesive holding layer the substrate holder would not function as otherwise disclosed.

The amendment filed 9-17-7 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The entire amendment to paragraph 31. Applicant is required to cancel the new matter in the reply to this Office Action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27-30, 32, 38-40 and 42-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 27 and 44 the scope of the language, "wherein both a tackiness between the first adhesive holding region and the main body and a tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness" is unclear because the measure of the property "tackiness" is not disclosed and it is otherwise indeterminable. In particular, the units of measurement are not disclosed and it is unclear if the property is intensive or extensive; more particularly, it is unclear if the measure of the magnitude of the property "tackiness" is dependent on dimensions of the adhesive holding regions, the main body and the circuit board.

Claims 28 and 29 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

To further clarify, the first and second adhesive holding regions of claim 27 are adhesive material inherently provided on said main body and being on a surface of said adhesive material. Also, the first and second adhesive holding regions of claim 27 are

inherently within one area (at least the one area inherently comprising the first and second adhesive holding regions) of the adhesive material.

Applicant is advised that should claim 27 be found allowable, claim 44 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 27-30, 32, 38-40 and 42-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The undescribed subject matter is the claims 27 and 44 language, "wherein both a tackiness between the first adhesive holding region and the main body and a tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness."

In the rejections infra, generally, reference labels are recited only for the first recitation of identical claim elements.



The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 27-30, 32, 38-40 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kuhns (20040119593), Nishikawa (JP7074497) and Sher (6197397).

At paragraphs 28-33, 40-45, 52, 56 and 65, Kuhns discloses the following:

Re claim 27: A substrate holder for holding a circuit board, comprising: a main body "liner"; and a holding surface formed on the main body for allowing a circuit board 10 to adhere to the holding surface, wherein the holding surface includes: a first adhesive 19a holding region which has inherent first surface coarseness and is operable to hold the circuit board with a first tackiness ("permanently tacky" and "adhesive strength") which inherently corresponds to the first surface coarseness; and a

second adhesive holding region 19b which has inherent second surface coarseness and is operable to hold the circuit board with a second tackiness which inherently corresponds to the second surface coarseness and is different from the first tackiness "the sticker 20 may include any number of different portions of adhesives with differing or similar adhesive strengths", said first and second adhesive holding regions being coplanar and capable of holding the circuit board in cooperation; wherein the first adhesive holding region and the second adhesive holding region are arranged parallel to the surface of said main body; and a tackiness between the first adhesive holding region and the main body and a tackiness between the second adhesive holding region and the main body "liner affixed to the adhesive layer".

Re claim 28: The substrate holder of claim 27, and further comprising an adhesive material provided on said main body, said first adhesive holding region and said second adhesive holding region being on a surface of said adhesive material.

Re claim 29: The substrate holder of claim 28, wherein the first adhesive holding region and the second adhesive holding region are within one area of the adhesive material on said main body.

Re claim 38: The substrate holder of claim 27, wherein the first tackiness is less than the second tackiness and the second adhesive holding region is confined within the first adhesive holding region.

Re claim 39: The substrate holder of claim 27, wherein the first tackiness is less than the second tackiness.

Re claim 42: The substrate holder of claim 27, wherein the holding surface comprises a plurality of sets of the first adhesive holding region and the second adhesive holding region ("at least two different portions 19a, 19b with varying adhesive strengths" and "any number of different portions of adhesives with differing or similar adhesive strengths").

Re claim 44: A pallet for carrying a circuit board comprising: a main body "liner"; and a holding surface formed on the main body for allowing a circuit board 10 to adhere to the holding surface, wherein the holding surface includes: a first adhesive 19a holding region which has inherent first surface coarseness and is operable to hold the circuit board with a first tackiness ("permanently tacky" and "adhesive strength") which inherently corresponds to the first surface coarseness; and a second adhesive holding region 19b which has inherent second surface coarseness and is operable to hold the circuit board with a second tackiness which inherently corresponds to the second surface coarseness and is different from the first tackiness "the sticker 20 may include any number of different portions of adhesives with differing or similar adhesive strengths", said first and second adhesive holding regions being coplanar and capable of holding the circuit board in cooperation; wherein the first adhesive holding region and the second adhesive holding region are arranged parallel to the surface of said main body; and a tackiness between the first adhesive holding region and the main body and a tackiness between the second adhesive holding region and the main body "liner affixed to the adhesive layer".

The following is further clarified:

Re claims 27 and 44: adhesive 19a which has inherent first surface coarseness with a first tackiness which inherently corresponds to the first surface coarseness; and a second adhesive 19b which has inherent second surface coarseness with a second tackiness which inherently corresponds to the second surface coarseness.

Specifically, adhesives 19a and 19b have inherent surface coarseness because applicant discloses that the property "surface coarseness" is substantially synonymous with the property of surface texture, e.g., at paragraph 13, Table 1, "mirror face," "1 S" and "1.6 S" and adhesives 19a and 19b have inherent surface texture. In addition, as admitted by applicant, e.g., paragraph 12, "tackiness increases with reduced surface coarseness," therefore, the first tackiness inherently corresponds to the first surface coarseness and the second tackiness inherently corresponds to the second surface coarseness.

However, Kuhns does not appear to explicitly disclose the following:

Re claims 27 and 44: wherein a through hole for receiving a pin is located in the first adhesive holding region so that the through hole is usable by the pin for peeling off the circuit board.

Notwithstanding, in the English translation and abstract, and the drawings, Nishikawa discloses a wherein a through hole 4 for receiving a pin 5 is located in the first adhesive holding region 3, so that the through hole is usable by the pin for peeling off the circuit board 2. Moreover, it would have been obvious to combine this disclosure of Nishikawa with the disclosure of Kuhns because it would facilitate release of the release liner of Kuhns.

Also, Kuhns does not appear to explicitly disclose the following:

Re claim 30: The substrate holder of claim 29, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material.

Re claim 32: The substrate holder of claim 28, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material.

Regardless, it would have been obvious to try a same adhesive material because a person of ordinary skill would be motivated to solve the problem of providing adhesive material and there are a finite number of identified, predictable solutions; namely, a same and a different adhesive material and, "when there is motivation to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). See also, *Pfizer Inc. v. Apotex Inc.*, 82 USPQ2d 1852 (Fed. Cir. 2007). *Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989). Ex parte Min-Hong Fu, Colleen A. Helbig, Kent J. Evans, Kathleen M. Carmichael, and David M. Skinner, Appeal 2008-0601, 03-31-2008.

Also, Kuhns does not appear to explicitly disclose the following:

Re claims 27 and 44: the second tackiness is different from the first tackiness, wherein both the tackiness between the first adhesive holding region and the main body

and the tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness.

Re claim 30: The substrate holder of claim 29, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material.

Re claim 32: The substrate holder of claim 28, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material.

Regardless, it would have been obvious to try wherein the second tackiness is different from the first tackiness, wherein both the tackiness between the first adhesive holding region and the main body and the tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness and wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material because a person of ordinary skill would be motivated to solve the problems of providing the tackiness between the regions and the main body, the first and second tackiness and the adhesive material and there are a finite number of identified, predictable solutions; namely, the tackiness between the second adhesive holding region and the main body is smaller, equal to or larger than the first tackiness and the second tackiness, and a same or different adhesive material, and, "when there is motivation to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If

this leads to anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.” KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007). Merck & Co., Inc. v. Biocraft Labs., Inc., 874 F.2d 804, 807 (Fed. Cir. 1989). Ex parte Min-Hong Fu, Colleen A. Helbig, Kent J. Evans, Kathleen M. Carmichael, and David M. Skinner, Appeal 2008-0601, 03-31-2008.

Kuhns also does not appear to explicitly disclose the following:

Re claims 27 and 44: the second surface coarseness different from the first surface coarseness, the second tackiness is different from the first tackiness, wherein both the tackiness between the first adhesive holding region and the main body and the tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness.

Re claim 30: The substrate holder of claim 29, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material, and the first adhesive holding region and the second adhesive holding region have different surface undulation characteristics.

Re claim 32: The substrate holder of claim 28, wherein the first adhesive holding region and the second adhesive holding region are composed of the same adhesive material, and the first adhesive holding region and the second adhesive holding region have different surface undulation characteristics.

Re claim 40: The substrate holder of claim 39, wherein an air outlet is provided in the second adhesive region.

Re claim 43: The substrate holder of claim 28, wherein the adhesive material comprises silicone rubber, polyurethane rubber or fluorine rubber.

Nonetheless, in the abstract and column 3, lines 33-40; column 3, line 47 to column 4, line 3; column 5, lines 4-12 and 26-32; and column 5, line 54 to column 9, line 64, Sher discloses a second surface coarseness and undulation characteristics "topography" different from a first surface coarseness and undulation characteristics, a second tackiness which corresponds to the second surface coarseness "the topography of the adhesive surface controls the performance of the adhesion interface" and is different from a first tackiness, wherein both the tackiness between a first adhesive 30 holding region "relative interior" and the main body and the tackiness between a second adhesive holding region "relative perimeter" and the main body "interfaces" are different than the first tackiness and the second tackiness "both major surfaces of adhesive layer 30 can be microreplicated using the same or different liner(s) 20 to provide the same or different adhesive performance properties at the two different adhesive interfaces during use"; wherein a first adhesive holding region and a second adhesive holding region are composed of the same adhesive material "same or different adhesives having same or different topographies"; wherein an air outlet "microchannels" is provided in the second adhesive region; wherein the adhesive material comprises silicone rubber, polyurethane rubber or fluorine rubber (Wilson (5362516), column 9, lines 21-37, incorporated by reference at column 8, lines 22-35.) Moreover, it would have been obvious to combine this disclosure of Sher with the disclosure of Kuhns because it would facilitate provision of the adhesive materials, the first and second tackiness, and the tackiness between the



first adhesive holding regions and the main body of Kuhns; and, as disclosed by Kuhns, as cited, it would improve adhesive properties.

Although the combination of Kuhns and Sher does not appear to explicitly disclose the tackiness between the adhesive regions and the main body is larger than the first and second tackiness, it would have been obvious to provide this particular relative tackiness because it would facilitate positioning and repositioning of the circuit board on the main body.

In any case, the combination of Kuhns and Sher discloses that tackiness is a result effective variable. Therefore, it would have been obvious to try variations of the tackiness variable, including the claimed variations because, "a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). See also, *Pfizer Inc. v. Apotex Inc.*, 82 USPQ2d 1852 (Fed. Cir. 2007). Moreover, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed tackiness limitations because applicant has not disclosed that, in view of the applied prior art, the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical, and it appears prima facie that the process would possess utility using another tackiness. Indeed, it has been held that optimization of range limitations are prima facie obvious absent a disclosure that the

limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See MPEP 2144.05(II): "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'" In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955). See also In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a prima facie case of obviousness based on overlapping ranges by showing the criticality of the claimed range. 'The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

Applicant's amendment and remarks filed 2-29-8 have been fully considered, treated supra and further addressed infra.

Applicant contends:

The following discussion will first deal with Applicants' prior amendment to recite that the tackiness between the first adhesive holding region and the main body, and the

tackiness between the second adhesive holding region and the main body, are both larger than the first tackiness and the second tackiness. . . . The Examiner's attention is directed to Fig. 7. This figure illustrates that upon separation of the FPC 9, which had been held on the adhesive holding layer 12, the FPC 9 is peeled off and the adhesive holding layer 12 remains on the main body of the pallet 1a. Thus, the drawings do in fact illustrate this feature by showing how this happens.

It is respectfully submitted that the conclusion, "Thus, the drawings do in fact illustrate this feature by showing how this happens" is ambiguous and it is unclear whether the language, "this feature" and "how this happens" refers to the feature wherein the tackiness between the first adhesive holding region and the main body and the tackiness between the second adhesive holding region and the main body are both larger than the first tackiness and the second tackiness or if the language additionally or instead refers to the alleged feature, "that upon separation of the FPC 9, which had been held on the adhesive holding layer 12, the FPC 9 is peeled off and the adhesive holding layer 12 remains on the main body of the pallet 1a."

Concerning the latter possible reference, the contention that, "the drawings do in fact illustrate this feature by showing how this happens" is respectfully deemed unpersuasive because the drawings are not objected to because they do not illustrate the feature "that upon separation of the FPC 9, which had been held on the adhesive holding layer 12, the FPC 9 is peeled off and the adhesive holding layer 12 remains on the main body of the pallet 1a" nor are the drawings objected to for not showing how this happens.

Furthermore, it is respectfully submitted that the alleged Fig. 7 disclosure that upon separation of the FPC 9, which had been held on the adhesive holding layer 12, the FPC 9 is peeled off and the adhesive holding layer 12 remains on the main body of

the pallet 1a does not necessarily illustrate, by showing how it happens, the feature that the tackiness between the first adhesive holding region and the main body and the tackiness between the second adhesive holding region and the main body are both larger than the first tackiness and the second tackiness. In fact, as elucidated infra, there is alternative disclosure showing how, allegedly, upon separation of the FPC 9, which had been held on the adhesive holding layer 12, the FPC 9 is peeled off and the adhesive holding layer 12 remains on the main body of the pallet 1a.

Applicant also asserts:

Further, 37 CFR §1.83(a) requires that the drawing show every feature of the invention specified in the claims. However, by "feature" it is respectfully submitted that the rule refers to structural details of sufficient importance. The feature which the Examiner is requiring illustration of is not a structural detail, but a characteristic of the adhesive holding regions and their interaction with a main body. As noted in MPEP §608.02(d), "any structural detail that is of sufficient importance to be described should be shown," citing *Ex Parte Good*, 164 OG 739 (Comm'r Pat. 1911). It is respectfully submitted that the illustration of such a feature as the tackiness is not a feature that is ordinarily considered to be a structural detail that admits of illustration. Accordingly, withdrawal of the requirement is respectfully requested.

These assertions are respectfully traversed because 37 CFR §1.83(a) does not refer only to structural details of sufficient importance. Furthermore, the requirement of MPEP §608.02(d) is directed to the entire disclosure and not only to every feature of the claims; as such, MPEP §608.02(d) is merely additive and not limiting to the 37 CFR §1.83(a) requirement that the drawing must show every feature of the invention specified in the claims.

In addition, applicant argues:

The tackiness between the first adhesive holding region and the main body and the tackiness between the second adhesive holding region and the main body are larger than the first tackiness and the second tackiness. In other words, the first and second adhesive holding regions require a smaller force to peel an object off of their regions

than the force between such regions and the main body to which they are applied. . . . Tackiness is the value corresponding to a force which is required to peel off an object which has adhered to the adhesive holding layer under certain conditions, and thus serves as a measure of adhesion. . . . From the specification it is clear that the FPC 9 is mounted on and then peeled off of the adhesive holding regions, with the adhesive holding regions remaining on the main body. This inherently means that the tackiness between the main body and the adhesive holding regions is greater than the so-called first and second tackiness of such first and second regions for holding the circuit board. . . . Thus, to one of ordinary skill in the art it is inherently understood that the tackiness between the first and second adhesive holding regions and the main body is larger than the first tackiness and the second tackiness, because otherwise the adhesive holding region would not remain on the pallet, and the pallet could not be recleaned and reused as described. Thus, the differential tackiness is an inherent characteristic that results from the description in the specification.

This argument is respectfully traversed because the alleged disclosure that adhesive holding regions 21, 22 remain on the pallet 1a during the disclosed process of peeling off the FPC 9 does not inherently mean that the tackiness between the main body and the adhesive holding regions is greater than the so-called first and second tackiness of such first and second regions.

To further clarify, as admitted by applicant and disclosed at paragraph 10, "‘tackiness’ is a value corresponding to a force which is required to peel off an object which has adhered to the adhesive holding layer under certain conditions." Furthermore, it appears that the conclusion that "the tackiness between the main body and the adhesive holding regions is greater than the so-called first and second tackiness of such first and second regions" is premised on an assumption that the force required to peel off the pallet 1a from the adhesive holding regions is greater than the force required to peel off the FPC 9 from the adhesive holding regions 21, 22 and that the "certain conditions" under which it is required to peel the pallet 1a and the FPC 9 are identical. However, there is no disclosure that the force required to peel off the pallet 1a

from the adhesive holding regions is greater than the force required to peel off the FPC 9 from the adhesive holding regions 21, 22 and that the "certain conditions" under which it is required to peel off the pallet 1a and the FPC 9 are identical. In fact, applicant appears to disclose that certain conditions under which the pallet 1a and the FPC 9 are peeled off are not identical. In particular, as disclosed at paragraphs 15, 25-29 and 31, the FPC 9, but not the pallet 1a, is peeled off under the certain conditions of direct application of "blown air" to the undersurface ("directly under the unit FPC"); elevation by direct "suction" of the "pickup mechanism 552" in synchronization with direct contact and "force from the push-up pins 641"; the inherent gravitational pull of the pallet 1a and adhesive holding layer 12; and an undisclosed, but apparently necessary, force to hold down the pallet 1a and adhesive holding layer 12 during application of the certain conditions supra. In addition, as suggested at paragraph 12, the forces required to peel off the FPC 9 and the pallet 1a from the adhesive holding regions 21, 22 (and hence the corresponding tackiness) are measured per unit area "a force value which is required to peel a piece of aluminum (having a contact surface of 1 cm.sup.2) off an adhesive holding layer," but the area of the FPC 9 is disclosed as not necessarily the same area as the pallet 1a (in fact, the area of the FPC 9 is disclosed as smaller than the area of the pallet); and, the entire pallet area is disclosed as being covered by adhesive holding regions 21, 22; see, e.g., FIG. 7, and, "in the case of the pallet 1a shown in FIG. 1, too, the entire upper face may be seen as a single area of adhesive material." Furthermore, in the disclosed process of peeling off the FPC 9, it appears that the different material properties of the FPC 9 and the pallet 1a would affect the forces required to peel off the

FPC 9 and the pallet 1a. In particular, applicant discloses that the FPC 9 is flexible, "The present invention relates to a technique for holding a circuit board, and more particularly to a technique for holding a flexible circuit board"; but the pallet 1a is highly stiff, "The base plate 11 may be a metal having a good thermal conductivity, e.g., aluminum or magnesium (which may also be any other material having a high stiffness).

Applicant also alleges:

Further, in citing "common sense", what the Examiner is proposing is a modification that goes against the operation of Kuhns, and is not consistent with Kuhns.

This apparent allegation that Kuhns teaches away from the claimed invention is respectfully deemed unpersuasive because applicant does not elucidate, and it is not otherwise apparent, how this disclosure teaches away from the claimed invention, nor why this alleged teaching away renders the combination of applied prior art improper. In any case, this allegation is respectfully traversed because Kuhns merely discloses examples and preferred embodiments and disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In *re Susi*, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In *re Gurley*, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994). A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). To further clarify, a prior art opinion that a claimed invention is not preferred for a particular limited purpose, does

not preclude utility of the invention for that or another purpose, or even preferability of the invention for another purpose. Moreover, even a teaching away from a claimed invention does not necessarily render the invention patentable. See *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998), where the court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed." Similarly, in *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997) applicant argued that the prior art taught away from use of a protective layer for a reflective article having a thickness within the claimed range of "50 to 100 Angstroms." Specifically, a patent to Zehender, which was relied upon to reject applicant's claim, included a statement that the thickness of the protective layer "should be not less than about [100 Angstroms]." The court held that the patent did not teach away from the claimed invention. "Zehender suggests that there are benefits to be derived from keeping the protective layer as thin as possible, consistent with achieving adequate protection. A thinner coating reduces light absorption and minimizes manufacturing time and expense. Thus, while Zehender expresses a preference for a thicker protective layer of 200-300 Angstroms, at the same time it provides the motivation for one of ordinary skill in the art to focus on thickness levels at the bottom of Zehender's suitable range - about 100 Angstroms - and to explore thickness levels below that range. The statement in Zehender that [i]n general, the thickness of the protective layer should be not less than about [100 Angstroms] falls far short of the



kind of teaching that would discourage one of skill in the art from fabricating a protective layer of 100 Angstroms or less. [W]e are therefore not convinced that there was a sufficient teaching away in the art to overcome [the] strong case of obviousness made out by Zehender." See MPEP 2144.05II and MPEP 2145, paragraph X.D..

Also, applicant states:

Rather, it seems to be clear that the Examiner is attempting a hindsight reconstruction of Applicants' invention with no real basis for the reconstruction. . . . the Examiner's discussion is only supportive of the conclusion of hindsight reasoning, and not reasoning based upon evidence in the prior art. . . . The Examiner's reconstruction of the present invention by the variously cited references, and the Examiner's highly strained interpretation of the case law to try to support this rejection, is clearly indicative of hindsight reasoning, which was held by the court in KSR as being impermissible.

These statements are respectfully deemed unpersuasive because it has been recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning; yet, so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was conceived, and so long as it does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper. In re McLaughlin, 443 F.2d 1392; 170 USPQ 209 (CCPA 1971). To this end, it is respectfully submitted that these criteria are satisfied in the rejection of the instant invention. Furthermore, applicant's allegation that hindsight reasoning, "was held by the court in KSR as being impermissible," is respectfully deemed unpersuasive because applicant merely cites without elucidation, and the citation does not otherwise appear to support the allegation.

Applicant further proffers:

The Examiner's further discussion of "well established legal precedent" to support a conclusion of an obvious matter of design choice is not well founded. A design choice is a legal conclusion, and not a reason to make a modification.

This proffer is respectfully traversed because "design choice" is not necessarily solely relied on to make a modification. Furthermore, the reliance on legal precedent is well founded; MPEP 2144 I.

In addition, applicant contends:

Kuhns is a completely different type of device and operates in a very different way, and it is not obvious to modify it to work in accord with the present invention.

This apparent contention that Kuhns is nonanalogous art is respectfully deemed unpersuasive because, "When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007).

The art made of record and not applied to the rejection is considered pertinent to applicant's disclosure. It is cited primarily to show inventions relevant to the examination of the instant invention.

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**Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.**

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (571) 273-8300.

/David E Graybill/

Primary Examiner, Art Unit 2822